

Pogue et al
USSN 09/978,199
Page 5 of 8

REMARKS/ARGUMENTS

Claims 5-10 and 33-34 are present with claims 5, 7 and 9 being amended and claims 35-39 being canceled without prejudice as having been withdrawn by the examiner previously. Claims 40-42 have been added. Please consider the present amendment and arguments.

New claims 40-42 recite the nature of the vector's replication inside a plant cell. This distinguishes it from the transgenic plants of Mirkov et al.

Claims 5-10 and 33 were rejected under 35 USC 112, second paragraph as being unclear as to the meaning of "without another virus". Claims 5, 7, and 9 have been amended to recite that the RNA/virus is capable of both the infecting and replicating in a plant or plant cell, alone by itself without the need of any other assistance. Therefore, this rejection should be withdrawn.

Claims 5-10 and 33 were rejected under 35 USC 112, first paragraph as not having an adequate written description. The examiner contends that the specification lacks a teaching of a structure other than the specific one described in SEQ ID NO: 1-3. This rejection is respectfully traversed. Numerous publications recite a variety of different RNA plant vector systems, which may be used. The specification on page 11, lines 3-9 lists a number of U.S. Patents disclosing several of these. Likewise, several lysozyme genes are published and mentioned in the specification on pages 4-7. All of these publications are incorporated by reference and are themselves full descriptions should one be interested. Accordingly, a considerable number of possible variations on the various components are taught and the rejection should be withdrawn.

Claims 5-10 and 33 were rejected under 35 USC 112, first paragraph as being enabled only for the particular construct made and not for the broad scope of the present claims. It is true that many genes cannot be expressed in plant cells using the exemplified vector system. Plants degrade certain proteins, misfold or denature other

Pogue et al
US 2005/0197819
Page 6 of 8

proteins and a number of proteins are incompatible with or toxic to the plant cells. Also, certain genes are not compatible with the plant viral vector system for various reasons.

However, applicants are not claiming the production of every gene with such a plant virus or RNA. Only the expression of lysozyme is being claimed. Applicants have experimentally established (after much effort) that this gene can be expressed in reasonable amounts with the recited vector system. Accordingly, this aspect of the invention has been enabled.

As for the other components of the vector system, a number of different vector systems are known as shown by the list of U.S. Patents recited on page 11, lines 3-9 of the specification. Given that such a large number of different recombinant virus vector expression systems using different recombinant viruses and different subgenomic promoters etc. have been used in the past to express various genes in plants by way of a transient expression in the cytoplasm, applicants do not see any reason to question their use in the present invention.

Curiously, page 8, lines 3-4 of the Office Action mailed January 26, 2005 states "Applicant has given no information about where in the plant the expression occurs, as the samples are from whole plants." The virus systemically infects the whole plant within about a week after a leaf inoculation (Examples 1 and 2) and therefore by 2-3 weeks, all of the plant is producing virus and hence lysozyme. Therefore, the full claim breadth is enabled by the disclosure and the rejection should be withdrawn.

Claims 5-10 and 33 were rejected under 35 USC 103(a) as being obvious over Mirkov et al in view of Donson et al. The examiner considers Mirkov et al to teach producing bovine lysozyme in plants.

A biologically active form of lysozyme has not been shown by Mirkov et al. Mirkov et al showed producing a biologically active lysozyme in yeast. The lysozyme produced in plants is merely a protein of approximately the desired size and which binds to an antibody against lysozyme. This merely indicates that a protein is being made by the plant cell. The protein may be denatured, misfolded, post-translationally modified etc. Biological activity includes the enzyme activity of the protein. Mirkov et al has not

Pogue et al
USSN 09/978,199
Page 7 of 8

shown any enzymatic activity/biological activity for their plant-produced protein. The fact that Mirkov et al showed biological activity for their yeast-produced protein but not for their plant-produced protein strongly suggests Mirkov et al never produced biologically active lysozyme in plants.

By contrast, applicants have experimentally demonstrated the production of biologically active lysozyme in plants. Of course applicants used a different vector system that works in an unrelated manner, a transient infection rather than transgenic plants. All of the present claims recite this different vector system, which must be able to produce "biologically active lysozyme" in plants, the thing that Mirkov et al apparently could not do.

The examiner considers Mirkov et al as producing lysozyme. Mirkov et al wish they could produce lysozyme in plants and tried to do so. It is true that Mirkov et al teach producing an antigenic protein of approximately the correct molecular weight. It is possible that this is a form of lysozyme. However, Mirkov et al apparently has not produced the biologically active form of lysozyme in plants because they have only shown the biologically active form of lysozyme produced in yeast.

Mirkov et al's hopes and wishful thinking do not make an enabling disclosure. As the examiner has recognized in the rejection under 35 USC 112, first paragraph, a certain level of unpredictability is present.

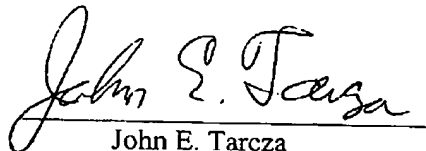
The examiner considers Donson et al to provide the teachings for the other aspects of the claimed invention to produce any gene, except for the teaching of the bovine lysozyme gene. The examiner considers one well motivated to use the Mirkov et al lysozyme gene in the Donson et al expression system. It may be "obvious to try" any known gene (including bovine lysozyme) but until one can reasonably expect successful production of the claimed product, it does not reach the standard of obviousness as required by 35 USC 103. In the present situation, the claimed product is "biologically active lysozyme", a product that neither Mirkov et al nor Donson et al has made. Therefore, the rejection should be withdrawn.

Pogue et al
USSN 09/978,199
Page 8 of 8

If needed, applicants petition for an extension of time under the provisions of 37 CFR 1.136(a) for sufficient time to accept this response. The commissioner hereby is authorized to charge payment of any fees under 37 CFR § 1.17, which may become due in connection with the instant application or credit any overpayment to Deposit Account No. 500933.

Respectfully submitted,

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